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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,264	10/21/2003	Roman Wrosz	AT-000217	4603
24710 7590 12/18/2006 ALIGN TECHNOLOGY, INC. ATTENTION: SCOTT SMITH 881 MARTIN AVENUE SANTA CLARA, CA 95050			EXAMINER NGUYEN, THUKHANH T	
			ART UNIT 1722	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		12/18/2006	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/690,264	WROSZ, ROMAN	
	Examiner	Art Unit	
	Thu Khanh T. Nguyen	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Inventorship

1. In view of the papers filed November 21, 2006, it has been found that this nonprovisional application, as filed, through error and without deceptive intent, improperly set forth the inventorship, and accordingly, this application has been corrected in compliance with 37 CFR 1.48(a). The inventorship of this application has been changed by adding Mr. James C. Culp and Mr. Crag E. Farren.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 49-53 and 60-61 are rejected under 35 U.S.C. 102(b) as being anticipated by Murayama (5,259,745).

Murayama teaches an apparatus for forming thermoplastic material, comprising an extruder (46) which is equivalent to a heater for heating and extruding thermoplastic material, or work piece to a molding means (8), a work piece manipulator, or a feeding means (20) connected to the extruder (46) for transporting the material from the extruder to a mold and plug manipulation system (Fig. 2, 8, 92, 94) for forming the workpieces into the final products,

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wherein the feeding means (20) delivers the molding material to each and every molding means (8; col. 6, lines 13-27), wherein each molding means includes a mold recess (263) and a plug (92).

Murayama also teaches a plurality of turrets (6, 26, 54) for moving the workpieces from one station to another station.

In regard to claims 50-52, Murayama discloses a loading chute (30) and a rotary feeding means (18) for introducing a workpiece, or a closure into the workpiece heating mechanism (38); wherein the loading chute (30) is an inline system and the feeding means (18) is a rotary turret system.

In regard to claims 53 and 61, wherein the mold and plug system is a rotary turret system (Fig. 2, 8), and wherein each plug is configured for cooperation with a corresponding mold.

In regard to claim 54, wherein the workpiece introduction system (48) includes a cutter to form a series of workpieces that are deposited into different molds (col. 13, line 66 to col. 14, lines 8).

In regard to claim 56, Murayama teaches a plurality of container closure shells that act as a female mold in corresponding with a plurality of the press tool assembly (92) for receiving and shaping the dose material from the extruder, wherein the apparatus further disclose a heating coil (38) for heating the female molds/closures (32).

In regard to claim 60, Murayama's apparatus is capable of forming dental aligners or other products from a soft synthetic resin. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of

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material or article worked upon by a structure being claimed does not impart patentability to the claims.” *In re Young*, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). MPEP § 2115.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama ('745) as applied to claims 49-53 and 60-61 above in view of Zangari et al (4,295,436).

Murayama discloses a molding apparatus as described above, but fails to disclose a cutter.

Zangari et al disclose an apparatus for molding cap liner, comprising a cutting device (50) for cutting a web material (34) from a web feed reel (36) into a predetermined piece (82).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Murayama by providing a cutter as taught by Zangari et al, because the cutter would enable the material being extruded continuously at the molding station, to expedited the molding process or that the molding material could be pre-extruded at another location and later transported to the molding station in a web feeding wheel.

6. Claims 57 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama ('745) as applied to claims 49-53 and 60-61 above, and further in view of Glick et al (5,620,720).

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Murayama discloses a plastic molding apparatus as described above, but fails to disclose a laser marking system.

Glick discloses a plastic mold assembly including male and female molds (12, 14) and a laser marking system for etching different marks on the molded product for identification purposes (col. 6, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Murayama by providing a laser marking system as taught by Glick, because the laser marking system would enable the apparatus to mark to formed product with different marks for identification purposes so different types of product can be formed by the same mold.

7. Claims 58 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama ('745) as applied to claims 49-53 and 60-61 above, and further in view of Jones et al (5,847,961).

Murayama discloses a molding apparatus as described above, but fails to disclose a multiple-axis CNC trimming system.

Jones et al disclose an apparatus for trimming thermoformed panel, comprising upper molds (10), lower molds (5) and multi-axis CNC trimming tool (col. 6, lines 6-9) for cutting the molded article in a predetermined size and shape that has been saved in a computer database.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Murayama by providing a multi-axis CNC trimming tool as taught by Jones et al because the CNC trimming tool would accuracy trim the molded article to a predetermined size and shape product.

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8. Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama (745) as applied to claims 49-53 and 60-61 above, and further in view of Glick et al ('720) and Jones et al ('961).

Murayama discloses a molding apparatus as described above, but fails to disclose a laser-marking device and a trimming system.

Glick discloses a plastic mold assembly including male and female molds (12, 14) and a laser marking system for etching different marks on the molded product for identification purposes (col. 6, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Murayama by providing a laser marking system as taught by Glick, because the laser marking system would enable the apparatus to mark to formed product with different marks for identification purposes so different types of product can be formed by the same mold.

Jones et al disclose an apparatus for trimming thermoformed panel, comprising upper molds (10), lower molds (5) and multi-axis CNC trimming tool (col. 6, lines 6-9) for cutting the molded article in a predetermined size and shape that has been saved in a computer database.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Murayama by providing a trimming tool as taught by Jones et al because the trimming tool would accuracy trim the molded article to product having a predetermined size and shape.

Response to Arguments

9. Applicant's arguments filed November 21, 2006 have been fully considered but they are not persuasive. The Applicant argued that "no teaching or suggestion in Murayama that anticipates a workpiece manipulator and mold and plug manipulator to cause a single workpiece and a single mold and plug to substantially simultaneously arrive at the workpiece operation chamber." The examiner respectfully disagrees.

In Murayama, the closures (32) act as a female mold members, that receive and reshape the workpiece (or the dose material). Murayama further discloses a feeding means (20), which is equivalent to the workpiece manipulator for providing a plurality of single piece of working material from an extruder to a molding/operating station (2; col. 6, lines 13-27).

The molding station (2) includes a rotary support member (6) which is equivalent to the mold and plug manipulator system because the support member would rotate a plurality of molding means (8) continuously along a circular moving path so that it would receive a single closure and a single dose of material at a time (col. 5, lines 19-33).

10. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Khanh T. Nguyen whose telephone number is 571-272-1136. The examiner can normally be reached on Monday- Friday, 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gupta Yogendra can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN


TIM HEITBRINK
PRIMARY EXAMINER
GROUP 130

12-13-06